

In the Claims

1. (original) A method of positioning a component on a substrate, the method comprising:

providing a liquid material on the substrate adjacent the component such that the component has a first position relative to the substrate; and

changing a property of the liquid material while in a liquid state to move the component from the first position relative to the substrate to a second position relative to the substrate while in a liquid state.

2. (original) A method according to Claim 1 further comprising:

before providing the liquid material and changing the property of the liquid material, providing an adhesive material that adheres the component to the substrate wherein the adhesive material is provided in a first state that allows movement of the component relative to the substrate; and

after providing the liquid material and changing the property of the liquid material, changing the adhesive material to a second state to secure the component in the second position relative to the substrate.

3. (original) A method according to Claim 2 wherein changing the adhesive material to the second state comprises changing the adhesive material to the second state while maintaining the liquid material in a liquid state.

4. (original) A method according to Claim 2 further comprising:

after changing the adhesive material to the second state, changing a state of the liquid material to a solid while maintaining the component in the second position relative to the substrate.

5. (original) A method according to Claim 2 wherein the adhesive material comprises curable epoxy and wherein changing the adhesive material to the second state comprises curing the curable epoxy.

6. (original) A method according to Claim 2 wherein the adhesive material comprises solder, wherein the first state of the adhesive material is liquid solder and wherein changing the adhesive material to the second state comprises changing liquid solder to a solid solder.

7. (original) A method according to Claim 1 further comprising:
after providing the liquid material and changing the property of the liquid material,
securing the component in the second position relative to the substrate.

8. (original) A method according to Claim 1 wherein changing the property of the liquid material comprises changing a surface tension of the liquid material.

9. (original) A method according to Claim 1 wherein changing the property of the liquid material comprises changing an internal pressure of the liquid material.

10. (original) A method according to Claim 1 wherein changing the property of the liquid material comprises changing volume of the liquid material.

11. (original) A method according to Claim 1 wherein changing the property of the liquid material comprises changing an electrical potential of the liquid material.

12. (original) A method according to Claim 1 wherein changing the property of the liquid material comprises heating different portions of the liquid material to different temperatures.

13. (original) A method according to Claim 1 wherein changing the property of the liquid material comprises changing a pressure exerted by the liquid material against the component.

14. (original) A method according to Claim 1 wherein changing the property of the liquid material comprises changing a fluid in contact with the liquid material.

15. (original) A method according to Claim 1 wherein changing the property of the liquid material comprises changing a gas in contact with the liquid material.

16. (original) A method according to Claim 1 wherein the liquid material is constrained on a wettable area of the substrate wherein the wettable area includes a first portion having a first dimension and a second portion having a second dimension, wherein changing the property of the liquid material comprises changing a temperature of the liquid material.

17. (original) A method according to Claim 1 wherein the component comprises an optical fiber, a laser, a lens, and/or a light emitting diode.

18. (original) A method according to Claim 1 wherein the second position is a desired position for the component.

19. (original) A method of positioning a component on a substrate, the method comprising:

providing an initial volume of liquid on a wettable area of the substrate adjacent the component such that the component has a first position relative to the substrate;

changing the volume of the liquid on the wettable area of the substrate adjacent the component to move the component from the first position relative to the substrate to the second position relative to the substrate; and

after providing the initial volume of the liquid and changing the volume of the liquid, securing the component in the second position relative to the substrate.

20. (original) A method according to Claim 19 wherein securing the component comprises cooling the liquid below the melting temperature thereof to solidify the liquid.

21. (original) A method according to Claim 19 wherein changing the volume of the liquid comprises increasing the volume of the liquid on the wettable area.

22. (original) A method according to Claim 19 wherein providing the initial volume of the liquid comprises providing the initial volume of the liquid on the wettable area of the substrate and providing a reservoir of liquid on a second wettable area, and wherein changing the volume of the liquid on the first wettable area comprises moving liquid from the reservoir to the first wettable area.

23. (original) A method according to Claim 19 wherein providing the initial volume of the liquid comprises providing the initial volume of the liquid on the wettable area of the substrate and providing a sump comprising a second wettable area, and wherein changing the volume of the liquid on the first wettable area comprises moving liquid from the first wettable area to the sump.

24. (original) A method according to Claim 19 wherein the component comprises an optical fiber, a laser, a lens, and/or a light emitting diode.

25. (original) A method of positioning a component on a substrate, the method comprising:

providing liquid material on substrate adjacent the component wherein the liquid material is confined to a wettable area of the substrate such that the component is in a first position relative to the substrate; and

differentially heating the liquid material to move the component from the first position to a second position relative to the substrate.

In re Glenn Rinne
Application No. 10/008,466
Filed: November 9, 2001
Page 6

26. (original) A method according to Claim 25 wherein the component comprises an optical fiber, a laser, a lens, and/or a light emitting diode.

27-42 (Canceled)